

RHEOMETER**ABSTRACT OF THE DISCLOSURE**

A rheometer and method of making rheological measurements is disclosed, in which a sample is supported between plates and an alternating movement is applied by a driver, support rod and plate. Force and displacement measurements are taken and the property determined from those measurements. The vibrating signal which is applied is in the form of a frequency sweep signal having a monotonic group delay function. The top plate is provided with a surface which causes a meniscus to form up a side edge of the plate to reduce the spring nature of the sample when the movement is supplied to the sample, and a supporting rod which supports the top plate is preferably formed from a material having a low coefficient of thermal expansion so that the gap between the plates is maintained substantially constant if the sample is heated to take measurements at different temperatures.